



INFORMATION DISCLOSURE STATEMENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: David A. Schwartz
Application No.: ~~10/702,843~~ 10/720,843
Filed: 24 November 2003
Group: 1654

Title: "HYDRAZINE-BASED AND CARBONYL-BASED BIFUNCTIONAL
CROSSLINKING REAGENTS "

INFORMATION DISCLOSURE STATEMENT
IN ACCORDANCE WITH 37 C.F.R. 1.97-1.98

Mail Stop: Patent Application
Commissioner for Patents
U.S.P.T.O.
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Since this Information Disclosure Statement is filed before the receipt of a first Office Action on the merits for the above-captioned application, no filing fee is due. If it is determined that a fee is due, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-1213.

In accordance with the duty of disclosure imposed by 37 C.F.R. § 1.56 to inform the Patent Office of all references known by Applicant or Applicant's representative that may be material to the examination of the subject application, Applicant's representative hereby provides this Information Disclosure Statement that is prepared in accordance with 37 C.F.R. §§ 1.97-1.98. The Forms PTO-1449 (4 pages) and cited references are provided herewith.

The documents listed on the Forms PTO-1449 and supplied herewith are in the English language, with the exception of item BN. Item BN (International PCT Publication WO 00/40590) is in the French language but includes an English Abstract describing the subject matter. Hence, in accordance with the requirements of 37 C.F.R. § 1.98, as amended effective March 16, 1992, no further explanation of the listed items is necessary.

Applicant also makes known to the Examiner the following related, co-pending U.S. and International applications and their status:

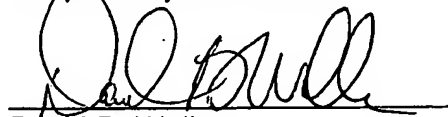
<u>U.S.S.N</u>	<u>Filing Date</u>	<u>Docket No.</u>
09/630,060	08/01/00	0751
09/630,627	08/01/00	0752
60/262,094	01/16/01	P755

<u>International App. No.</u>	<u>Filing Date</u>	<u>Docket No.</u>
PCT/US01/09252	03/22/01	0753PC

Although these documents are made known to the Patent and Trademark Office in compliance with Applicant's duty of disclosure, such disclosure is not to be construed as an admission by Applicant or Applicant's representative that any of the references, singly or in any combination thereof, is effective as prior art against the subject application. In accordance with 37 C.F.R. §1.97(h), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. §1.56(b) exists.

Applicant respectfully requests that the Examiner review the foregoing references and make them of record in the file history of the above-captioned application.

Respectfully submitted,



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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Application Number	10/702,843
Filing Date	24 November 2003
First Named Inventor	Schwartz
Art Unit	1654
Examiner Name	J.E. Russel
Attorney Docket Number	SOL.003.DIV1

of 4

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER							DATE	NAME	CLASS	SUB CLASS	FILING DATE
	AA	3	8	0	8	0	8	6	04/30/74	Mosimann et al.	161	93	04/07/72
	AB	4	2	4	4	7	2	1	01/13/81	Gupta et al.	65	31	01/31/79
	AC	4	4	6	1	8	7	6	07/24/84	Lieberman et al.	525	374	09/09/82
	AD	4	7	0	7	4	4	0	11/17/87	Stavrianopoulos	435	6	01/30/84
	AE	4	7	7	5	6	1	9	10/04/88	Urdea	435	6	10/16/84
	AF	4	8	7	4	8	1	3	10/17/89	O'Shannessy	525	54.1	02/09/87
	AG	5	1	1	8	6	0	5	06/02/92	Urdea	435	6	09/29/88
	AH	5	1	5	1	5	0	7	09/29/92	Hobbs, Jr. et al.	536	23	06/12/91
	AI	5	2	0	6	3	7	0	04/27/93	Schwartz et al.	546	281	05/26/92
	AJ	5	2	1	0	2	0	3	05/11/93	Musso et al.	548	130	05/07/92
	AK	5	3	8	0	8	3	3	01/10/95	Urdea	536	22.1	12/13/91
	AL	5	4	2	0	2	8	5	05/30/95	Schwartz et al.	546	281	05/30/95
	AM	5	5	2	1	2	9	0	05/28/96	Sivam et al.	530	391.5	11/21/94
	AN	5	5	6	7	6	2	4	10/22/96	Smith	436	163	04/27/95
	AO	5	6	7	9	7	7	8	10/21/97	Abrams et al.	530	391.5	11/03/93
	AP	5	7	5	3	5	2	0	05/19/98	Schwartz et al.	436	542	02/06/95
	AQ	5	7	8	9	5	7	6	08/04/98	Daily et al.	536	25.6	12/09/94
	AR	5	7	9	2	6	1	5	08/11/98	Arnold et al.	435	6	03/06/97
	AS	5	8	3	7	8	5	6	11/17/98	Arnold, Jr. et al.	536	24.5	03/06/98
	AT	5	8	3	7	8	6	0	11/17/98	Anderson et al.	536	25.3	03/05/97
	AU	5	8	5	4	4	1	0	12/29/98	Arnold, Jr. et al.	536	23.1	03/31/94
	AV	5	8	5	6	5	7	1	01/05/99	Berninger et al.	564	37	06/07/95
	AW	5	8	7	7	2	2	0	03/02/99	Schwartz et al.	514	626	03/06/97
	AX	5	8	8	0	2	7	0	03/09/99	Berninger et al.	530	391.1	12/23/97

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Sheet	2	of	4	Attorney Docket Number		SOL.003.DIV1	

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER							DATE	NAME	CLASS	SUB CLASS	FILING DATE
	AY	5	9	0	0	4	8	1	05/04/99	Lough et al.	536	55.3	11/06/96
	AZ	5	9	5	5	9	7		09/21/99	Arnold, Jr. et al.	536	24.3	06/30/97
	BA	5	9	5	8	9	0	1	09/28/99	Dwyer et al.	514	75	06/05/96
	BB	6	0	0	1	8	2	6	12/14/99	Murrer et al.	514	183	07/20/92
	BC	6	0	2	8	1	8	8	02/22/00	Arnold, Jr. et al.	536	25.3	11/21/94
	BD	6	0	2	0	5	2	6	02/01/00	Schwartz et al.	564	153	07/22/96
	BE	6	0	3	4	1	3	5	03/07/00	Schwartz et al.	514	616	03/06/97
	BF	6	1	3	3	4	3	6	10/17/00	Köster et al.	536	24.3	09/19/97
	BG	6	2	1	7	8	4	5	04/17/01	Schwartz et al.	424	1.69	11/06/97

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER							DATE	COUNTRY	CLASS	SUB CLASS	Translation Yes No	
	BH	0	0	0	5	2	0	8	02/03/00	PCT				
	BI	0	0	0	5	2	4	3	02/03/00	PCT				
	BJ	0	0	0	8	0	4	2	02/17/00	PCT				
	BK	0	0	4	0	5	9	0	07/13/00	PCT				
	BL	0	1	0	9	3	8	5	02/08/01	PCT A2				
	BM	0	2	8	0	4	7	4	02/19/88	EP A2				
	BN	0	2	8	0	4	7	4	02/19/88	EP B1				
	BO	0	3	6	1	7	6	8	09/19/89	EP A2				
	BP	0	3	8	4	7	6	9	02/23/90	EP B1				
	BQ	9	4	1	0	1	4	9	05/11/94	PCT				

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

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Sheet 3 of 4	Application Number	10/702,843
	Filing Date	24 November 2003
	First Named Inventor	Schwartz
	Art Unit	1654
	Examiner Name	J.E. Russel
	Attorney Docket Number	SOL.003.DIV1

BR	Abrams <i>et al.</i> , "Technetium-99m-Human Polyclonal IgG Radiolabeled via the Hydrazino Nicotinamide Derivative for Imaging Focal Sites of Infection in Rats", <i>J. Nucl. Med.</i> , <u>31(12)</u> :2022-2028; (1990)
BS	Agrawal, S. (Ed.), <i>Methods in Molecular Biology</i> , 20, Book: Protocols for Oligonucleotides and Analogs, Synthesis and Properties, Humana Press, (1993)
BT	Bischoff <i>et al.</i> , "Introduction of 5'-Terminal Functional Groups into Synthetic Oligonucleotides for Selective Immobilization", <i>Anal. Biochem.</i> , <u>164</u> :336-344; (1987)
BU	Bridger <i>et al.</i> , "A Comparison of Cleavable and Noncleavable Hydrazinopyridine Linkers for the ^{99m} Tc Labeling of Fab' Monoclonal Antibody Fragments", <i>Bioconj. Chem.</i> , <u>7</u> :255-264; (1996)
BV	Chang <i>et al.</i> , "Early Results in the International Design of New Bifunctional Chelators", <i>6th Conference on Radioimmunodetection and Radioimmunotherapy of Cancer - Supplement to Cancer</i> , <u>80</u> :2347-2353; (1997)
BW	Ellis <i>et al.</i> , "Development and Clinical Uses of Haemphilus b Conjugate Vaccines", Book: <i>Marcel Dekker, Inc.; New York</i> ; (1994)
BX	Ghosh <i>et al.</i> , "Covalent attachment of oligonucleotides to solid supports", <i>Nucl. Acids. Res.</i> , <u>15(3)</u> :5353-5372; (1987)
BY	Ghosh <i>et al.</i> , "Synthesis of 5'-Oligonucleotide Hydrazide Derivatives and Their Use in Preparation of Enzyme-Nucleic Acid Hybridization Probes", <i>Anal. Biochem.</i> , <u>178</u> :43-51; (1989)
BZ	Greene <i>et al.</i> , "Protective Groups in Organic Synthesis", Book: 2nd Edition, <i>John Wiley & Sons, Inc.</i>
CA	Hermanson <i>et al.</i> , <i>Bioconjugate Techniques</i> : Academic Press, 1996
CB	Hostomsky <i>et al.</i> , "Solid-phase assembly of DNA duplexes from synthetic oligonucleotides," <i>Nucl. Acid. Symp. Ser.</i> , <u>18</u> :241-244; (1987)
CC	IUPAC-IUB: "IUPAC-IUB Commission on Biochemical Nomenclature Abbreviated Nomenclature of Synthetic Polypeptides (Polymerized Amino Acids)", <i>Biochem.</i> , <u>11(5)</u> :942-944; (1972)
CD	Kaneko <i>et al.</i> , "New Hydrazone Derivates of Adriamycin and Their Immunoconjugates - a Correlation between Acid Stability and Cytotoxicity," <i>Bioconj. Chem.</i> , <u>2(3)</u> :133-141; (1991)
CE	King <i>et al.</i> , "Preparation of Protein Conjugates via Intermolecular Hydrazone Linkage", <i>Biochem.</i> , <u>25</u> :5774-5779; (1986)
CF	Marble <i>et al.</i> , "RNA Transcription from Immobilized DNA Templates," <i>Biotechnol. Prog.</i> <u>11</u> :393-396; (1995)

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		Examiner Name	J.E. Russel
Sheet 4	of 4	Attorney Docket Number	SOL.003.DIV1

CG	Reynolds <i>et al.</i> , "Antisense oligonucleotides containing an internal non-nucleotide-based linker promote site-specific cleavage of RNA", <i>Nucl. Acids. Res.</i> , <u>24(4)</u> :760-765; (1996)
CH	Reynolds <i>et al.</i> , "Synthesis and thermodynamics of oligonucleotides containing chirally pure Rp methylphosphonate linkages", <i>Nucl. Acids. Res.</i> <u>24(22)</u> :4584-4591; (1996)
CI	Rose <i>et al.</i> , "Natural Peptides as Building Blocks for the Synthesis of Large Protein-like Molecules with Hydrazone and Oxime Linkages", <i>Bioconjugate Chem.</i> , <u>7</u> :552-556; (1996)
CJ	Salo <i>et al.</i> , "Aminooxy Functionalized Oligonucleotides: Preparation, On-Support Derivatization, and Postsynthetic Attachment to Polymer Support", <i>Bioconjugate Chem.</i> , <u>10</u> :815-823; (1999)
CK	Schwartz <i>et al.</i> , "Preparation of Hydrazino-Modified Proteins and Their Use for the Synthesis of 99mTc-Protein Conjugates," <i>Bioconjugate Chem.</i> , <u>2</u> :333-336; (1991)
CL	Timofeev <i>et al.</i> , "Regioselective immobilization of short oligonucleotides to acrylic copolymer gels", <i>Nucl. Acids. Res.</i> , <u>24(16)</u> :3142-3148; (1996)
CM	Trevisiol <i>et al.</i> , "The Oxyamino-Aldehyde Coupling Reaction: An Efficient Method for the Derivatization of Oligonucleotides", <i>Tetrahedron Lett.</i> <u>38(50)</u> :8687-8690; (1997)
CN	Trevisiol <i>et al.</i> , "Synthesis of Nucleoside Triphosphate that Contain an Aminooxy Function for 'Post-Amplification Labeling'", <i>Eur. J. Org. Chem.</i> , pages 211-217; (2000)

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